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Gender Minority Stress, Mental Health, and Relationship Quality: A Dyadic Investigation of Transgender Women and Their Cisgender Male Partners

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Research has demonstrated associations between experiences of discrimination, relationship quality, and mental health. However, critical questions remain unanswered with regard to how stigma enacted and experienced at the dyadic-level influences relationship quality and mental health for transgender women and their cisgender (nontransgender) male partners. The present study sought to examine how experiences of transgender-related discrimination (i.e., unfair treatment, harassment) and relationship stigma (i.e., the real or anticipated fear of rejection based on one's romantic affiliation) were associated with both partners relationship quality and mental health. Couples (n = 191) were recruited to participate in cross-sectional survey. Dyadic analyses using actor–partner interdependence models were conducted to examine the influence of minority stressors on clinically significant depressive distress and relationship quality. For both partners, financial hardship, discrimination, and relationship stigma were associated with an increased odds of depressive distress. For both partners, financial hardship was associated with lower relationship quality. Among transgender women, their own and their partner's higher relationship stigma scores were associated with lower relationship quality; however, among male partners, only their partner's greater relationship stigma scores were associated with lower relationship quality. Findings provide preliminary support for dyadic crossover effects of relationship stigma on the health of partners. Findings illustrate the importance of minority stress and dyadic stress frameworks in understanding and intervening upon mental health disparities among transgender women and their male partners. Couples-based interventions and treatment approaches to help transgender women and their male partners cope with minority stressors are warranted to improve the health and well-being of both partners.

Keywords: couples, mental health, relationship quality, relationship stigma, transgender

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In the United States, transgender women (i.e., individuals assigned a male sex at birth who identify as female, male-to-female, transgender women) are a group at elevated risk of adverse health outcomes (Institute of Medicine, 2011). Studies have reported high prevalence of depressive symptoms, discrimination, and financial hardship in samples of transgender women (Balsam, Molina, Beadnell, Simoni, & Walters, 2011; Barrientos, Silva, Catalan, Gomez, & Longueira, 2010; Clements-Nolle, Marx, Guzman, & Katz, 2001; Clements-Nolle, Marx, & Katz, 2006). In addition, these psychosocial factors are associated with unprotected sexual intercourse among transgender women, which place them at risk for HIV and other sexually transmitted infections (STIs; Brennan et al., 2012; Herbst et al., 2008; Hotton, Garofalo, Kuhns, & Johnson, 2013; Nemoto, Operario, Keatley, Han, & Soma, 2004). Studies have suggested that HIV-related sexual risk behaviors among transgender women occur frequently within the context of an intimate sexual relationship with a *cisgender* (i.e., nontransgender) male partner (Bockting, Robinson, & Rosser, 1998; Nemoto, Operario, Keatley, & Villegas, 2004). *Cisgender* refers to having a current gender identity that is concordant with assigned sex at birth (i.e., nontransgender). Consequently, there has been a call for a greater prioritization of research to understand and address the social, relational, and psychological factors contributing to HIV and other behavioral health risks among transgender people

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(Institute of Medicine, 2011; Task Force on Gender Identity & Gender Variance, 2009).

For several decades, family and relationship scholars have sought to understand the associations between chronic stressors, romantic intimate partners, and health outcomes (Revenson & DeLongis, 2011). Bodenmann (2005) and Story and Bradbury (2004) have defined external stressors as those which originate outside of the relationship. These can include stressors at the workplace, experiencing financial hardship, and sociocultural environmental contexts (Revenson, Kayser, & Bodenmann, 2005). Exposure to these external stressors, as well as partners' reactions to them, can cause internal stress within the relationship and lead to conflicts and poor relationship outcomes (Bodenmann et al., 2007; Karney, Story, & Bradbury, 2005). The term *dyadic stress* has been used to conceptualize the stress that both partners in an intimate relationship experience when faced with a stressor or when there is a 'cross-over' of stress from one partner to the other (Bolger, DeLongis, Kessler, & Wethington, 1989; Randall & Bodenmann, 2009). This concept is consistent with Kelley and Thibaut's (1959) interdependence model, which suggests that stressors experienced by one member of a dyadic partnership might also negatively impact the other member. Consistent negative correlations between external stressors, such as work and financial stress, and relationship satisfaction have been reported among couples (Bahr, 1979; Bolger et al., 1989; Schulz et al., 2004; Story & Repetti, 2006; Bodenmann et al., 2007), indicating that experiences of external stress are associated with lower levels of relationship satisfaction.

Enacted stigma and discrimination represent important external stressors that may have deleterious effect on couples' relationship quality and health outcomes. Stigma has been shown to negatively influence relationship quality and mental health indicators among sexual minority couples (Frost & Meyer, 2009; Goldberg & Smith, 2011; Mohr & Fassinger, 2006; Otis, Rostosky, Riggle, & Hamrin, 2006). Understanding how external stressors, such as stigma and discrimination, can hinder the well-being of transgender women and their male partners is important in light of the general health and psychosocial vulnerabilities in these communities (Task Force on Gender Identity & Gender Variance, 2009) and because relationship quality has been predictive of health outcomes (Kiecolt-Glaser et al., 2005; Robles & Kiecolt-Glaser, 2003; Kiecolt-Glaser, Bane, Glaser, & Malarkey, 2003)

Minority Stress and Transgender Women

Discriminatory and prejudicial attitudes toward transgender individuals continue to be pervasive in many societies (Walch, Ngamake, Francisco, Stitt, & Shingler, 2012). Because of their gender identity or gender expression, transgender people experience high levels of gender-based stressors and violence, including family rejection and hate crimes (Bazargan & Galvan, 2012; Bradford, Reisner, Honnold, & Xavier, 2013; Clements-Nolle et al., 2006; Koken, Bimbi, & Parsons, 2009; Lombardi, 2009; Lombardi, Wilchins, Priesing, & Malouf, 2002; Nuttbrock et al., 2010). Additionally, research has documented high prevalence of employment discrimination, which leads to economic marginalization and financial hardship among transgender women (Bradford et al., 2013; Conron, Gunner, Stowell, & Landers, 2012; Lombardi et al., 2002).

Scholars have proposed that the link between discrimination and health risk behaviors among transgender women may be consistent with Meyer's (2003) minority stress model (Bockting, Miner, Swinburne Romine, Hamilton, & Coleman, 2013; Hendricks & Testa, 2012; Testa et al., 2012). According to this model, individuals who belong to socially devalued groups are vulnerable to chronic exposure in the form of discrimination and mistreatment, which in turn may lead to negative self-appraisals, concealment of one's stigmatized status, and expectations for future rejection (Hendricks & Testa, 2012; Meyer, 2003). Over time, minority stressors can compromise psychological coping resources and lead to poor health outcomes, such as mental health distress. A body of research has found associations between discrimination, internalized stigma, and depression among lesbian, gay, and bisexual (LGB) individuals (Gamarel, Reisner, Parsons, & Golub, 2012; Hatzenbuehler, Nolen-Hoeksema, & Erickson, 2008; Lehavot & Simoni, 2011; Newcomb & Mustanski, 2010). With few exceptions (Bockting et al., 2013; Testa et al., 2012), studies have not examined these associations among transgender people.

Minority Stress and Intimate Romantic Partners

Intimate romantic relationships can have enhancing or compromising health effects for individuals across all populations, but they have been shown to be disproportionately challenging among socially disadvantaged individuals (Maisel & Karney, 2012). In light of the minority stressors they face as sexual and gender minority individuals, some LGBT individuals experience challenges to their relationship quality and functioning (Otis et al., 2006; Peplau & Fingerhut, 2007). Sexual and gender minority people in romantic relationships may be ignored or rejected by parents, relatives, friends, and the larger society rather than validated, celebrated, and supported (Otis et al., 2006). As a result, romantic partners may internalize these messages about their identities and romantic affiliations. Existing studies have shown that the internalization of stigmatizing messages about LGB individuals negatively influences relationship quality and mental health among lesbian and gay couples (Frost & Meyer, 2009; Goldberg & Smith, 2011; Mohr & Fassinger, 2006; Otis et al., 2006). The basic premise across these studies is that same-sex couples may experience added stressors on their relationship as a result of being a stigmatized minority (Rostosky, Riggle, Gray, & Hatton, 2007).

Given these social and psychological dynamics, the minority stress model has compelling implications for romantic relationships among sexual and gender minority individuals. To date, studies have only examined internalized stigma at the individual-level, for example by assessing exposure to and consequences of discrimination among sexual or gender minority individuals. It becomes critical to understand how stigma is felt at the dyadic-level when examining the impact of minority stressors on sexual minority couples in the context of an intimate, romantic relationship. In addition, no research that we are aware of to date has examined gender minority couples—where at least one partner identifies as transgender—and the specific external stressors that partners may experience as a result of being in a relationship with a person who has a socially stigmatized identity. As such, we propose that relationship stigma for gender minority couples manifests itself in the real or anticipated feelings of negative judgment or rejection from family members and others as a result of one's

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romantic relationship being socially devalued—for example, resulting from heteronormative and gender-normative models of relationships that pervade societies (Goldberg, 2013). Relationship stigma can therefore be defined as the internalization of negative messages about relational affiliation with socially stigmatized individuals, including people of transgender experience. Within the minority stress framework, relationship stigma may be conceptualized as a proximal stressor that causes cognitive burden including, for example, self-consciousness, self-doubt, and a perceived need to conceal the relationship, all of which may have a negative impact on both partners' mental health and relationship quality (Frost & Meyer, 2009; Meyer, 2003).

Within the dyadic stress framework, gender minority stressors such as transgender-related discrimination, relationship stigma, and financial hardship experienced by one member of the dyad are hypothesized to have cross-over effects on the other member. Dyadic stress theory highlights the need to focus on the impact of transgender-related discrimination, relationship stigma, and financial hardship from a dyadic context—that is, impacts on both partners as a unit—rather than an individual context alone. The purpose of this study was to investigate the association between transgender-related discrimination, relationship stigma, and financial hardship on the mental health and relationship quality of transgender women and their primary male partners. Consistent with previous research, we hypothesized that greater exposure to transgender-related discrimination, relationship stigma, and financial hardship would be associated with elevated odds of depressive symptoms and lower relationship quality scores at the individual level (e.g., Meyer, 2003). In accordance with dyadic stress theories (Bodenmann, 2005; Randall & Bodenmann, 2009), we hypothesized that individual's appraisals of minority stressors would also negatively influence their partners' outcomes, such that one partner's experiences of transgender-related discrimination, relationship stigma, and financial hardship would be associated with greater odds of depressive symptoms and lower levels of relationship quality for their primary relationship partner.

Method

Participants

Participants were 191 couples comprising transgender women and their cisgender primary male partner. All cisgender male partners sampled were assigned a male sex at birth and identified themselves as male. For parsimony, we refer to these participants as male. Transgender women and their male partners each individually completed cross-sectional questionnaires between November 2008 and November 2010 (Operario, Nemoto, Iwamoto, & Moore, 2011). The majority of the sample (79.1%) self-identified as a member of a racial/ethnic minority group (27.4% Black; 18.7% Latino; 12.6% Asian; and 19.4% Mixed/Other). More than half of the sample reported financial hardship—earning less than $500 a month (61.3%). The average mean length of relationship was 37.9 months (SD = 51.0) and average age of all participants was 37.12 years (SD = 11.25). Couples were recruited in the San Francisco Bay area in California using purposive sampling methods (Shadish, Cook, & Campbell, 2004) by identifying a range of community spaces and venues where transgender women and male partners of transgender women congregate (e.g., community-based organizations, bars, and nightclubs) and posting flyers. Couples who called the study were screened separately for eligibility criteria, and eligible participants were scheduled for an in-person interview at the research center or a conveniently located in a confidential space at a community-based organization. Both partners were required to attend the appointment together, but were consented and completed survey assessments separately.

To be eligible, both partners must have reported each other as their primary intimate partner for at least 3 months, defined as a "partner to whom you feel committed above anyone else and with whom you have had a sexual relationship." We included couples in which one partner in each couple identified as a transgender woman (i.e., assigned a male sex at birth who identifies as female) and the other partner identified as a cisgender male. In addition, all participants were (a) at least 18 years old, (b) living or working in the San Francisco Bay area, (c) English or Spanish speaking, and (d) able to provide informed consent.

Procedures

Surveys were administered to participants using audio computer-assisted self-interview technology. Survey items were translated into Spanish, but Spanish version surveys were administered on paper; 5 monolingual Spanish participants completed the Spanish survey. Surveys took approximately 1 hour to complete and participants received $50 reimbursement and a brochure with a list of local community organizations addressing transgender issues. Procedures were approved by the Institutional Review Boards at the Public Health Institute, Oakland, University of California San Francisco, and University of Oxford, Oxford, United Kingdom.

Measures

Sociodemographics. Participants self-reported their age, gender, race and ethnicity, HIV serostatus (positive or negative/unknown), education level, and financial hardship. Financial hardship was categorized as greater than or equal to $500 a month (≥$12,000 per year) versus less than $500 a month (<$12,000 per year). This coding was implemented to be at or greater than 100% of the federal poverty level in accordance with the poverty guidelines updated periodically in the *Federal Register* by the U.S. Department of Health and Human Services (2009) under the authority of 42 U.S.C.9902. Participants also provided the duration of the primary relationship (in months).

Depressive symptoms. The 20-item Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977) was administered to measure depressed mood in the past week. The CES-D consists of 20 items (i.e., *could not get going*). Participants responded on a 4-point scale ranging from 1 = *rarely or none of the time* to 4 = *most or all of the time*. Previous studies have demonstrated that the scale has good psychometric properties in LGBT samples (Operario et al., 2011; Wong, Schrager, Holloway, Meyer, & Kipke, 2014). Internal consistency for composite scores on the CES-D were good within our sample (α = .88). Participants were classified as experiencing clinically significant levels of depressive symptoms if their CES-D score was 16 or higher. This clinical cut off of 16 or above is widely accepted to indicate the presence of clinically significant depressive symptoms (Berkman,

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Berkman, & Kasl, 1986; U.S. Department of Health & Human Services, 2004).

Relationship quality. A modified Dyadic Adjustment Scale (DAS) was used to assess overall relationship quality. The DAS measures the degree to which participants and their primary partners tended to agree or disagree on topics such as "handling finances" and "major life decisions" (Spanier, 1976). Participants rated on a 6-point scale ranging from 0 = *Always disagree* to 5 = *Always agree*. The DAS scale was condescended to the first 24 items of the original scale based on a previous study using same-sex male couples, which was shown to be valid and reliable (Johnson et al., 2012). The modified DAS demonstrated good psychometric properties in the current sample (α = .93), and total scores ranged from 6 to 110.

Discrimination. The Everyday Discrimination Scale (Williams, Yu, Jackson, & Anderson, 1997) was adapted to assess discriminatory experiences that transgender participants attributed to being a transgender woman (i.e., *In your general day-to-day life, how often are you treated with less respect because you are a transgender woman*). Similarly, their male partners' were asked to about their experiences of being discriminated as a result of being in a relationship with a transgender woman (i.e., *In your general day-to-day life, how often have you been called names because you are in a relationship with a transgender woman*). Response options ranged from 0 = *Never* to 4 = *Always*. The adaptation of the 9-item scale has demonstrated good psychometric properties in other studies with sexual minority samples (Gamarel et al., 2012) and had high internal reliability consistency within the current sample (α = .94). Total scores in the current sample ranged from 0 to 36.

Relationship stigma. A relationship stigma scale was developed by members of the research team based on focus group discussions with an independent sample of transgender women and their male partners (Operario, Nemoto, Iwamoto, & Moore, 2009). Based on preliminary qualitative findings about participants' relationship experiences, nine items were developed to assess perceptions of stigma targeted toward their relationship (sample item, *How often do you feel uncomfortable holding hands with your partner in public?*; see Table 1 for full measure). Both transgender women and their male partner completed the same questions. Responses options ranged from 0 = *Never* to 4 = *Always*. Total scores in the sample ranged from 0 to 28.

An initial exploratory principal component analysis (PCA) was performed to examine the underlying factor structure of the nine items for transgender women and their male partners, separately. The test identified two factors, but Cattell's (1966) scree test indicated that only the first factor should be retained given the pronounced "elbow." Descriptive data and PCA loadings for each of the nine relationship stigma items are presented in Table 1, including eigenvalues, percentage of variance for each factor, the factor loadings for the two-factor solution, and the internal consistency reliability coefficient (Cronbach's alpha). Results suggested that the items originated from a single component that accounted for 24.7% of the variance for transgender women (Kaiser-Meyer-Olsen = 0.91) and 34.9% (Kaiser-Meyer-Olsen = 0.82) of the variance for their male partners. The distribution of the initial eigenvalues supported the one factor solution as more appropriate since it was the only factor that had a value greater than 1, which is the condition for being retained in the model (Tabachnick & Fidell, 2001).

A confirmatory factor analysis (CFA) using maximum-likelihood estimation was then performed to ensure the items converged onto a single factor. The ratio of chi-square to the number of degrees of freedom (χ^2/df) was used to test whether the data fit well with the one factor solution (true if $\chi^2/df < 5$ Jöreskog & Sörbom, 1993). The Comparative Fit Index (CFI), which varies from 0 and 1, was used to compare the proposed model with the null model. A CFA greater than 0.90 is generally considered adequate (Kline, 2005). The root mean square error of approximation (RMSEA) represents the close fit of the model to the data where a value of 0.10 or less indicates a close fit (Tabachnick & Fidell, 2001). The CFA confirmed the one factor-exploratory model among the sample of transgender women, $\chi^2(20) = 66.35$, CFI = 0.94, and RMSEA = 0.10, as

Table 1
Principal Components Analysis of Relationship Stigma Scale (n = 191 Couples)[a]

Items	Component solution transgender women		Component solution male partners	
	Factor 1	Factor 2	Factor 1	Factor 2
1. How often do you feel uncomfortable going out with your partner in public?	**0.49**	0.20	**0.53**	0.13
2. How often do you feel uncomfortable going out to 'straight' clubs or bars with your partner?	**0.55**	−0.18	**0.70**	0.19
3. How often do you feel uncomfortable holding hands with your partner in public?	**0.45**	0.27	**0.70**	0.14
4. How frequently have you been harassed or bothered by strangers when you are with your partner in public?	**0.81**	**0.40**	**0.51**	0.06
5. How often do you experience difficulty introducing your partner to friends, acquaintances or co-workers?	**0.81**	**0.40**	**0.43**	0.01
6. How often have you had to hide your relationship from other people?	**0.72**	−0.31	**0.78**	0.03
7. How often do you feel there is something wrong about being in a relationship with your partner?	**0.70**	−0.38	**0.71**	−0.26
8. How often do you feel self-conscious about being in a relationship with your partner?	**0.65**	−0.23	**0.72**	−0.19
9. How often do you feel that friends and family disapprove of your relationship?	**0.44**	−0.36	**0.57**	−0.48
Eiguenvalues	**2.22**	0.99	**3.14**	0.94
% of Variance	**24.7**	11.0	**34.9**	10.4
Theoretical scale score range	0 to 28		0 to 28	
Cronbach's alpha (α)	0.90		0.82	

[a] Varimax Rotation with Kaiser Normalization.

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well as in the sample of male partners, $\chi^2(20) = 90.18$, CFI = 0.91, and RMSEA = 0.09. Item loadings for transgender women ranged from 0.50 to 0.84, and from 0.62 to 0.83 for their male partners. The scale demonstrated good internal consistency reliability for transgender women ($\alpha = .90$) and their male partners ($\alpha = .82$).

Overview of Statistical Analysis

This analysis followed procedures for dyadic data analysis described by Kenny, Kashy, and Cook (2006). Transgender women and their male partners represent distinguishable dyads. Within each dyad, partners differ with regard to gender, and gender has potentially meaningful implications for the theoretical constructs examined. Descriptive statistics such as frequency distributions or means and standard deviations were obtained to summarize demographic characteristics, discrimination, relationship stigma, financial hardship, clinically significant depressive distress, and relationship quality for both transgender women and their male primary partners. Intraclass correlations (ICC) were used to assess the relationship between transgender women and male partners' respective scores on a particular continuous variable (Kenny et al., 2006). Nonsignificant ICCs indicate that the responses of one partner are unrelated to their partner's measure score, while statistically significant values indicate significant similarity (i.e., dependence) between partner scores. The ICC values range between -1 and $+1$ (in the case of dyads). An ICC of zero implies that members of the dyad are no more similar to one another than members of different dyads. An increase in the absolute value of the ICC implies that the partners' responses are increasingly similar to (or dissimilar from) one another. An ICC of 1.0 indicates that members of the same couple responded identically. Cohen's Kappa is an analogous measure of association for dichotomous variables; its interpretation is identical to that of the ICC coefficient (Kenny et al., 2006). To examine relationships among the major study variables, ICCs and Cohen's Kappas were calculated separately for transgender women and their male partners.

Models examining the association between minority stressors (discrimination, relationship stigma, and financial hardship), clinically significant depressive distress (binary), and relationship quality (continuous) were conceptualized using the Actor–Partner Interdependence Model (APIM; Kenny et al., 2006). APIM models are models that account for the organization of individuals within dyads. Two types of effects are examined: *actor effects* in which an individual's own value on a measure is used to predict his or her own score on the outcome, and *partner effects* in which an individual's score on a measure is used to predict his or her partner's score on the outcome. For example, a transgender woman's probability of clinically significant depressive distress can be predicted from her own relationship stigma scores (i.e., an actor effect of relationship stigma) as well as from her partner's relationship stigma score (a partner effect of relationship stigma). Additionally, it is possible to introduce dyad-level variables that are shared by both members of the couple (e.g., length of relationship). APIM analyses were conducted using a structural equation modeling approach described by Kenny and colleagues (2006), which allows for testing distinguishability within dyads to determine whether the association among variables should be constrained equal across partners or examined separately by gender identity. All models statistically adjusted for relationship duration (in months). Models containing race and HIV status as additional covariates were also tested and results did not differ substantively; therefore, the models presented are not controlled for race and HIV status. The principal components analysis (showing reliability of the relationship stigma scale) and all APIM analyses were conducted in Mplus 6.1 (Muthén & Muthén, 2010). Descriptive statistics, bivariate analyses, and the confirmatory factor analysis for the relationship stigma items were conducted using SPSS version 20.

Results

As shown in Table 2, there was significant dependence in race, financial hardship, HIV status, and age between partners. Transgender women were less likely to report an HIV-positive serostatus compared to their male partners ($p < .001$). Additionally, transgender women reported significantly higher levels of relationship stigma compared to their male partners ($p < .001$). Transgender women's relationship quality scores were inversely associated with their own discrimination and relationship stigma scores, as well as their partners' relationship stigma scores. Additionally, their male partners' relationship quality scores were inversely correlated with their own discrimination scores (see Table 3) such that lower reported relationship quality was associated with higher levels of discrimination. Relationship stigma and discrimination were positive correlated with one another for both transgender women ($p < .01$) and their male partners ($p < .01$). Financial hardship was not associated with discrimination, relationship stigma, clinically significant depressive distress, or relationship quality for transgender women or their male partners (findings not shown in Table, available upon request).

Impact of Gender Minority Stressors on Depressive Distress

Transgender women and their male partners' clinically significant depressive distress were regressed on their reports of discrimination, relationship stigma, and financial hardship. A test of distinguishability on the basis of gender identity was conducted. An unconstrained model was fit that included all variables except for discrimination scores because these conceptually represent different constructs for transgender women (i.e., discrimination attributed to her own gender identity) compared with their male partners (i.e., discrimination based on his relationship with a transgender women). A second model constrained effects to be equal across gender identity. There were no gender differences among transgender-women and their male partners in this model, $\chi^2(7) = 10.23$, $p > 0.18$. As shown in Table 4, actor reports of financial hardship, discrimination, and relationship stigma were associated with increases in the odds of actor clinically significant depressive distress. With regard to covariates, longer relationship duration was significantly associated with increased odds of clinically significant depressive distress.

Table 2
Overall Sample (n = 382) and Couple-Level Bivariate Associations (n = 191)

	Transgender women	Male partners	Test statistic[a]	K
Race			$\chi^2(4) = 32.17^{***}$	0.27^{***}
Asian	40 (20.9)	8 (4.2)		
Black	42 (22.0)	65 (34.0)		
Latino	40 (20.9)	33 (17.3)		
White	30 (15.7)	50 (26.2)		
Mixed/other	39 (20.4)	35 (18.3)		
Education attainment			$\chi^2(3) = 4.62$	0.06
Less than HS	35 (18.5)	46 (24.2)		
HS or GED	72 (38.1)	63 (33.2)		
Some college	62 (32.8)	52 (27.4)		
College or more	20 (10.6)	28 (15.3)		
Financial hardship			$\chi^2(1) = 0.08$	0.25^{***}
<$500 last month	118 (62.4)	116 (61.1)		
>$500 last month	71 (37.6)	74 (38.9)		
HIV status			$\chi^2(1) = 21.58^{***}$	0.28^{***}
HIV-positive	35 (18.3)	75 (39.5)		
HIV-negative	156 (81.7)	116 (60.7)		
Depressive distress			$\chi^2(1) = 0.86$	−0.01
Less than 16	109 (57.1)	100 (52.4)		
16 or higher	82 (42.9)	91 (47.6)		
	M (SD)	*M (SD)*	Test statistic	ICC
Age	36.32 (10.82)	37.92 (11.65)	$t(190) = 2.11^{*}$	0.51^{***}
Discrimination	10.55 (7.92)	11.34 (8.56)	$t(190) = 0.81$	−0.01
Relational stigma	6.96 (6.63)	4.94 (5.45)	$t(190) = -3.27^{***}$	−0.03
Relationship quality	70.19 (20.47)	77.88 (69.71)	$t(190) = -1.39$	0.09

Note. Means and standard deviations are based on untransformed variables.
[a] Bivariate test statistics compare transgender women to their male partners.
* $p \leq .05$, *** $p \leq .001$.

The Impact of Gender Minority Stressors on Relationship Quality

Next, transgender women and their male partners' relationship quality scores were regressed on their reports of discrimination, relationship stigma, and financial hardship. A test of distinguishability on the basis of gender identity was conducted using one model where all effects were estimated and a second model where all effects with the exception of discrimination scores were constrained to be equal across gender identity status. The fully constrained model demonstrated significantly worse fit compared to the unconstrained model, $\chi^2(9) = 20.67$, $p = .01$, illustrating that gender identity served a distinguishing variable. Two additional models were tested to examine whether there were gender identity differences on financial hardship actor effects and relationship stigma partner effects. Because financial hardship actor effects and relationship stigma partner effects were similar in direction and magnitude, they were constrained to be equal across both transgender women and their nontransgender male partners. Constraints for financial hardship actor effects, $\chi^2(20) = 13.79$, $p > .90$, and relationship stigma partner effects $\chi^2(11) = 13.82$, $p > .90$ were consistent with the data. Results from this model are detailed in Table 5. For both transgender women and their male partners, one's own report (i.e., the actor effect) of financial hardship was associated with their own perceptions of poorer relationship quality. Additionally, there was a partner effect for both partners, such that their partners' higher reports of relationship stigma scores (partner effects) were associated with their own perceptions of lower relationship quality. Moreover, transgender women's higher relationship stigma scores were associated with their own lower relationship quality. With regard to covariates, the age of the male

Table 3
Correlations Among Predictor and Continuous Outcome Variables in Transgender Women and Their Male Partners

Variable	1	2	3	4	5	6
1. Male relationship quality	—					
2. Female relationship quality	0.21^{**}	—				
3. Male discrimination	−0.03	-0.28^{**}	—			
4. Female discrimination	-0.17^{*}	0.03	0.00	—		
5. Male relationship stigma	−0.03	-0.42^{**}	0.62^{**}	−0.04	—	
6. Female relationship stigma	0.02	-0.18^{*}	−0.03	0.38^{**}	−0.00	—

* $p \leq .05$, ** $p \leq .01$.

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Table 4
Actor and Partner Effects Predicting a Positive Screen for Clinically Significant Depressive Distress (Binary) From Minority Stressors[a]

Effect	Transgender women partners' depressive distress		Nontransgender male partners' depressive distress	
	aOR	95% CI	aOR	95% CI
Actor effects				
Age	0.99[b]	1.00, 1.01	0.99[b]	1.00, 1.01
Financial hardship	1.69*[b]	1.02, 2.57	1.69*[b]	1.02, 2.57
Discrimination	1.06**	1.02, 1.11	1.08**	1.03, 1.14
Relationship stigma	1.13***[b]	1.07, 1.18	1.13***[b]	1.07, 1.18
Partner effects				
Age	1.00[b]	0.98, 1.01	1.00[b]	0.98, 1.01
Financial hardship	1.01[b]	0.62, 1.67	1.01[b]	0.62, 1.67
Discrimination	1.04	0.99, 1.08	1.00	0.96, 1.04
Relationship stigma	0.99[b]	0.95, 1.04	0.99[b]	0.95, 1.04

Note. Logistic regression models adjusted for relationship length; aOR = adjusted odds ratio; CI = confidence interval.
[a] Clinically significant depressive distress was operationalized as scoring CES-D > 16 (yes/no). [b] Coefficients constrained to be equal across partners and supported by chi-square difference test.
* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$.

partner was positively associated with their own reports of relationship quality, meaning the older they were in age the higher the relationship quality. Additionally, there was a partner effect such that for a male partner their transgender woman partner's older age was associated with their own reports of lower relationship quality.

Discussion

This study provides further evidence that health disparities among gender minority populations may be understood in the context of intimate relationships and stigmatizing social conditions that influence partnerships (Frost & Meyer, 2009; Operario et al., 2009). Transgender women experience significant health disparities, including a high burden of mental health distress, and experiences of social and economic marginalization (Institute of Medicine, 2011; Task Force on Gender Identity & Gender Variance, 2009). Our sample comprised a racially/ethnically diverse group of transgender women and their male partners who evinced high levels of clinically significant depressive distress and financial hardship. For example, 42.9% of transgender women and 47.6% of their primary male partners screened positive for past-week clinically significant depressive distress at the time of the study assessment. Mental health and socioeconomic status carries substantial meaning because of their association with HIV risk behaviors (Hotton et al., 2013; Operario & Nemoto, 2005), particularly given the high prevalence of HIV infection among transgender women in the United States (Herbst et al., 2008). Although studies have repeatedly documented transgender women's experiences of adverse health outcomes, there is little research on the relationship context and dyadic mechanisms that may account for these disparities. To our knowledge, this is the first study to examine the association between minority stressors, mental health, and relationship quality among transgender women and their male partners. This study examined different dimensions of minority stress—transgender-related discrimination, relationship stigma, and financial hardship—and explored their reciprocal influence on the health of both dyad members. We also present a preliminarily validated measure of relationship stigma for use in future research and practice with transgender women and their male partners.

Findings from the current study offer support for the application of a minority stress model from the individual-level (e.g., Meyer, 2003; Hatzenbuehler et al., 2008) to the couple-level for transgender women and their male partners. This study sought to examine how minority stressors experienced and enacted at the dyadic-level influenced psychological well-being and relationship quality for both partners. Consistent with previous studies (Bockting et al., 2013), we found transgender-related discrimination was associated with increased odds of depressive distress among transgender women and their male partners. As hypothesized, these findings also lend support to the role of relationship stigma as a unique minority stressor for socially devalued couples. With regard to clinically significant depressive symptoms, we found significant actor effects among both transgender women and their male partners, such that higher levels of reported relationship stigma were associated with elevations in their own odds of depressive symptoms and associated with poorer perceived relationship quality,

Table 5
Actor and Partner Effects Predicting Relationship Quality (Continuous) From Minority Stressors[a]

	Transgender women partners' RQ			Nontransgender male partners' RQ		
	B	*SE*	95% CI	*B*	*SE*	95% CI
Actor effects						
Age	0.28	0.14	−0.41, −0.01	0.45**	0.15	−0.55, −0.11
Financial hardship	−4.72*[b]	1.90	−7.84, −1.59	−4.72*[b]	1.90	−7.84, −1.59
Discrimination	0.25	0.15	−0.00, 0.50	−0.05	0.21	−0.39, 0.30
Relationship stigma	−0.75**	0.24	−1.15, −0.35	−0.07	0.25	−0.48, 0.35
Partner effects						
Age	0.28*	0.14	0.05, 0.51	−0.33**	0.13	−0.55, −0.11
Financial hardship	−1.54	2.53	−5.70, 2.63	0.67	2.74	−3.83, 5.18
Discrimination	−0.15	0.18	−.44, 0.14	−0.08	0.16	−0.36, 0.17
Relationship stigma	−1.11***[b]	0.18	−1.40, −0.82	−1.11***[b]	0.18	−1.40, −0.82

Note. Linear regression models adjusted for relationship length; RQ = relationship quality; CI = confidence interval.
[a] Higher scores indicate greater relationship quality. [b] Coefficients constrained to be equal across partners and supported by chi-square difference test.
* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$.

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even after adjusting for transgender-related discrimination and other relevant covariates. Contrary to our hypothesis, there were no significant partner effects for increased odds of depressive symptoms for those whose partners experience greater relationship stigma. Although reasons for this nonsignificant partner effect of relationship stigma on depression are unclear, existing dyadic coping theories offer areas for future research.

Within the broader dyadic coping literature, partners who experience high levels of external stressors may have difficulty communicating with their partner about their thoughts and emotions, which may negatively influence their own mental health outcomes (Manne et al., 2010). External stressors, such as experiencing discrimination and internalizing negative messages from the outside about one's romantic affiliation, may produce a stressful interpersonal environment, which inhibits stress communication (Randall, & Bodenmann, 2009). As noted earlier, minority stress models (Meyer, 2003) and their applications to transgender individuals (Hendricks & Testa, 2012) were formulated to explain mental health disparities among social stigmatized individuals, and do not necessarily address potentially unique minority stressors on dyadic processes relevant to couples (Peplau & Fingerhut, 2007). Findings from the current study indicate that an important future area for research and theory development involves examining whether the minority stressors experienced at both the individual- and dyadic-level influences mental health through couples' stress communication and coping strategies (i.e., holding back or avoidance).

Importantly, we found preliminary support for the cross-over effect of relationship stigma, such that relationship stigma perceived by each partner negatively impacted their respective partners' reports of relationship quality, over and above controlling for discrimination and other stress-related covariates. The reciprocal influence of relationship stigma on both partners' reports of relationship quality is consistent with interdependence and dyadic coping models, which propose that stressful life events experienced by one individual may also influence their partner's emotions and, potentially, mental health (Randall & Bodenmann, 2009). These findings suggest that both transgender women and their male partners may internalize negative messages about transgender people, which may diminish their own psychological well-being (Frost & Meyer, 2009). Moreover, the internalization of these messages can have cross-over effects on their respective partners' satisfaction with the relationship. The internalization of stigmatizing messages about one's intimate partner can result in relationship strain and/or conflict, which may have the potential to produce isolation, and inhibition of interpersonal support and open communication (Rostosky et al., 2007). Future research is warranted to the examine the mechanisms through which relationship stigma impacts both partners well-being, as well as how dyadic coping strategies (i.e., joint problem solving, open communication, mutual disclosure) can mitigate the effects of minority stress on individuals' and their partners' mental health and relationship quality.

For both transgender women and their male partners, financial hardship was associated with a 65% increase in the odds of reporting clinically significant depressive distress. Additionally, both partners' reports of financial hardship were associated with their own perceptions of poorer relationship quality. Recent findings suggest that LGBT populations are significantly more likely to be economically disadvantaged, compared with their heterosexual counterparts (Lee Badgett, Durso, & Schneebaum, 2013). The context of chronic disadvantage that defines low-income populations has been shown previously to alter the associations between communication and relational outcomes, such as relationship duration and quality (Karney et al., 2005; Maisel & Karney, 2012). Whereas stressful life events, such as minority stressors, are associated with mental health problems and poorer relationship outcomes, they may pose greater challenges for low-income populations. Couples who are economically disadvantaged, such as many of those in our sample, may have a harder time accessing concrete coping resources, such as health care and mental health therapy, that have the potential to reduce the impact of the demands of the couple's time and energy to manage the stressors (Williamson, Karney, & Bradbury, 2013). Researchers, psychologists, and health care professionals will benefit from attending to the social context, including socioeconomic position, of both partners' lives to more fully understand and intervene upon the impact of stigma and discrimination on couples' health and wellbeing.

Limitations

Several limitations are noted when interpreting our findings. First, this study relies on self-report data, which may be subject to social desirability. Second, causal or temporal claims cannot be drawn because of the cross-sectional study design. Third, gender affirmation (Sevelius, 2013)—which refers to the process by which individuals are affirmed in their gender identity along social, medical, and legal dimensions—was not assessed in this analysis. Gender affirmation processes, including "passing" may moderate the relation between gender minority stressors, such as transgender discrimination and relationship stigma, and outcomes such as clinically significant depressive distress. Future research would benefit from examining gender affirmation in a relational and dyadic context. Fourth, transgender women have diverse sexual orientations and can be attracted to males, females, and other transgender people. Fifth, this study recruited and enrolled transgender women in a relationship with a male partner, thus findings cannot be generalized to transgender women with partners who identify of other genders, or to transgender people of other gender identities (i.e., transgender men, genderqueer people). Sixth, participants were recruited from a specific geographic area with a history of social and legal protections against transgender discrimination, and where many there are many safe spaces for transgender individuals. These findings may not be generalizable to couples in other geographic regions and settings. Indeed, the effects of discrimination on relationship quality and mental health may be more robust for couples who do not reside in urban areas. Additionally, this study consists of a convenience sample recruited from high-risk venues where the majority of participants were living below the poverty line and nearly 30% of the total sample self-reported living with HIV. Although we did not observe differences in these associations by HIV serostatus, coping with a chronic disease may increase stress, place strain on the relationship, and negatively influence mental health outcomes. Finally, the only significant cross-over effect observed was for the relationship stigma scale which we initially validated in this sample. Future research is warranted to replicate and extend these findings about relationship stigma with other samples, particularly dyads in which

one or both partners have a stigmatized identity (e.g., gender identity, sexual orientation, race/ethnic minority, physical ability status, and so forth).

Conclusions

Despite these limitations, our findings point to the importance of conceptualizing health problems among transgender women within the context of intimate relationships and social contexts. The persistent prejudice and discrimination surrounding transgender individuals remains a significant societal challenge. Relationship stigma—conceptualized as the internalization of negative messages about relational affiliation with transgender individuals—may pose a particularly devastating threat to couples' well-being. Mental health practitioners, health care professionals, and researchers working with these communities must acknowledge the social and interpersonal determinants of health disparities among members of these socially and economically marginalized groups. The American Psychological Association calls upon "psychologists in their professional roles to provide appropriate, nondiscriminatory treatment to transgender and gender variant individuals" (Anton, 2009). Training programs need to provide opportunities for developing competence in working with transgender individuals and their partners (U.S. Department of Health & Human Services, 2012). Evidence suggests that providing trainings in cultural competence increases the self-efficacy of psychologists to provide affirmative therapy to LGB clients (Dillon, Worthington, Soth-McNett, & Schwartz, 2008; Korfhage, 2005); similar evaluations of psychologists working with transgender clients are needed (Task Force on Gender Identity & Gender Variance, 2009). Mental health professionals working with transgender clients and their partners must recognize the multitude of minority stressors that they may endure on a daily basis (Hendricks & Testa, 2012), as well as understand the interpersonal context of health behaviors, to help foster a positive sense of self-worth and encourage optimal dyadic coping strategies. Mental health professionals can enhance couples communication skills—for example, adaptive ways for requesting support, expressing dissatisfaction or conflict, showing empathy, and other active listening skills—so that they can effectively work together to manage extra dyadic stressors that may place strain on their relationship and have a negative effect on their mental health. Future research and programs would benefit from attending to the interactions between partners to identify and clarify the ways that both members of the couple can adaptively cope together. Attending to dyadic and interpersonal processes alongside minority stressors is critical to clinical, research, and policy efforts to address and alleviate adverse health outcomes for both partners.

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